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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

030900

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Application Number

10/782,215

Filed

02/19/2004

First Named Inventor

James A. McClain

Art Unit

1623

Examiner

P. V. Ward

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☐ attorney or agent of record.
Registration number _____

☒ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 54,216

Signature

Joseph L. Kent

Typed or printed name

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Telephone number

December 13, 2005

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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U.S. Application Serial No. 10/782,215
Attorney Docket No. 030900
Pre-Appeal Brief Request for Review

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 1623	:	
Examiner: Paul V. Ward	:	
In re application of: James A. McClain	:	A METHOD OF PRODUCING
Serial No.: 10/782,215	:	RESISTANT STARCH
Filing Date: February 19, 2004	:	

ARGUMENTS AND REMARKS FOR PRE-APPEAL BRIEF CONFERENCE

Pittsburgh, PA 15222
December 13, 2005

Mail Stop AF
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Advisory Action mailed from the U.S. Patent and Trademark Office on November 28, 2005 ("Advisory Action"), and the Office Action of July 12, 2005 in the above identified application, Applicant requests a Pre-Appeal Brief Conference in accordance with the guidelines in the "New Pre-Appeal Brief Conference Pilot Program" announcement, which appeared in the July 12, 2005 issue of the *Official Gazette*. In accordance with those guidelines, Arguments for the conference are presented herein. Filed concurrently herewith are a Pre-Appeal Brief Request for Review (form PTO/SB/33), a Notice of Appeal, and the fee under 37 C.F.R. § 41.20(b)(1). Also filed are a Petition for Extension of Time and the appropriate fee. Any deficiency or overpayment may be charged or credited, respectively, to Deposit Account No. 11-1110.

The issues addressed herein are ripe for appeal in accordance with 37 C.F.R. § 41.31(a)(1), the claims having been subject to at least two rejections.

ARGUMENTS

Applicant filed a response after final, including amendments, on November 3, 2005, which resulting in the Advisory Action. The Advisory Action indicated that Applicant's amendments had overcome the rejection under 35 U.S.C. § 102, but the Examiner maintained the rejection under 35 U.S.C. § 103(a). Applicant requests withdrawal of the rejection of the claims under 35 U.S.C § 103(a) as being obvious over the combination of U.S. Patent No. 5,358,729 to Ohkuma et al., ("Ohkuma") in view of U.S Patent No. 2,287,599 to Bulfer ("Bulfer") for at least the reasons that there is no suggestion or motivation to modify or combine the teachings of the references and that the combined references fail to teach or suggest, either expressly or inherently, each and every element of the claims. Applicant respectfully asserts that the various actions issued by the Examiner misread both Ohkuma and Bulfer and incorrectly conclude that the combined references teach a method of forming a resistant starch as recited in the claims.

Applicant's Invention

Applicant's invention is a method of producing a resistant starch comprising the steps of: (a) selecting a reaction temperature of about 140°C to about 180°C; (b) acidifying unmodified starch to a pH of about 1 to about 4, wherein said pH is optimum to convert said unmodified starch to resistant starch when at said reaction temperature; (c) heating said acidified unmodified starch to said reaction temperature; and (d) maintaining said acidified unmodified starch close to said reaction temperature until a maximum yield of resistant starch has been obtained while maintaining a whiteness level between about 60 and about 100. The invention also includes claims to the resistant starch produced by this method. Accordingly, the present invention recites that at a given reaction temperature between about 140°C to about 180°C, a corresponding optimum pH between about 1 and about 4 may be selected to produce a maximum yield of resistant starch having a whiteness level between about 60 and about 100.

The Cited Art

Ohkuma discloses an indigestible dextrin and method of forming the same, wherein the dextrin contains up to 50% of 1→4 glycosidic linkages and at least 60% of indigestible

component and diminished in color substance or stimulative odor. As set forth by Ohkuma, the dextrin is prepared by heat-treating corn starch with the addition of acid.

Bulfer discloses a treatment of starch for the production of soluble dextrine of good adhesive properties suitable for use as a library paste or like adhesive. (Column 1, lines 15-18). The method comprises heating starch in a dry state with monochloroacetic acid and chlorine gas maintained at dextrinizing temperature. (Claim 1, column 4, lines 30-36). The product from the Bulfer method “will be a white dextrine of 85% solubles (80% to 90%) having a fluidity of 11 (10-11.5) in a mixture consisting of 3 parts of dextrine to 4 parts of water by weight.” (Column 2, lines 18-21).

Rejection

All of Applicant’s claims were rejected as being obvious over Ohkuma in view of Bulfer. However, there is no suggestion or motivation to modify or combine the teachings of the references. In addition, the combined references fail to teach or suggest, either expressly or inherently, each and every element of the claims.

In the Advisory Action of Examiner states that “Ohkuma emphasizes that the whiteness decreased in inverse proportion to the heating temperature or heating time, and figures 2 and 3 demonstrate . . . that the degree of coloration at pH 4.5 is lower than the degree in a reaction at pH 6.5.” (See, Advisory Action, page 2, lines 5-7, emphasis added).

Applicant respectfully asserts that the method of Ohkuma discloses: 1) only post formation pH values; 2) post formation pH values outside the range claimed in the present application; and 3) no nexus between pH and reaction temperature. Specifically, figures 2 and 3 (cited by the Examiner) correspond to Experimental Example 14, where the dextrin formed by the Ohkuma process is further heated with an amino acid at pH of 4.5 and 6.5 and “checked for changes in the degree of coloration.” Thus, Ohkuma examines the effect of pH on whiteness of the already formed dextrin and not a nexus between pH and reaction temperature during dextrin formation.

Further, the Ohkuma process produces a starch having a whiteness of 50.5 or less over the temperatures claimed in the subject application (i.e., 140°C to 180°C). (See, Ohkuma, Table 13, column 23, lines 24-36). There is no suggestion or motivation in Ohkuma to produce a

resistant starch employing the pH and reaction temperatures or their nexus, as claimed in the present invention, while maintaining the whiteness levels between about 60 and about 100. Indeed, contrary to the Examiner's assertion, Ohkuma teaches away from maintaining whiteness levels of between about 60 and about 100 during formation at the claimed temperature range. As taught by Ohkuma at column 23, lines 38-39, "[t]he whiteness decreased generally in inverse proportion to the heating temperature or heating time." Accordingly, as the reaction temperature is changed from 140°C to 180°C, the whiteness level of the Ohkuma dextrin decreases from 50.5% to 20.5%, respectively. One of skill in the art reading Ohkuma would not be motivated to maintain the whiteness levels between about 60 and about 100 at a reaction temperature of about 140°C to about 180°C, while at an optimum pH of about 1 to about 4 as recited in the claims of the present invention.

The Examiner cites Bulfer as disclosing "a resistant starch having a whiteness level of 80-90% formed using chlorine gas". (See, Advisory Action, page 2, fourth paragraph). However, Applicant asserts that the Examiner has misread Bulfer, as Bulfer does not disclose a starch having a whiteness level of 80%-90% but rather refers to a solubles content within this range. Specifically, the Bulfer disclosure states that the method will produce "a white dextrine of 85% solubles (80% to 90%) having a fluidity of 11 (10-11.5) in a mixture consisting of 3 parts of dextrine to 4 parts of water by weight." (Column 2, lines 18-21, emphasis added). Contrary to the Examiner's assertion, nowhere in the Bulfer disclosure is the whiteness level of the dextrine product ever provided. In addition, the numerical range cited by the Examiner (i.e., 80%-90%) does not appear elsewhere in Bulfer, other than with reference to solubles content. Ohkuma and Bulfer do not teach or suggest a dextrin with "a whiteness level between about 60 and about 100" and therefore do not teach or suggest each and every element of the claimed invention.

Further, there is no motivation or suggestion to combine the Ohkuma and Bulfer references to arrive at the claimed process parameters. Ohkuma teaches at column 23, lines 38-39, "[t]he whiteness decrease[s] generally in inverse proportion to the heating temperature or heating time" and that temperatures of 140°C or greater result in whiteness levels of 50.5% or less. Bulfer, on the other hand, discloses a method of dextrine formation involving heating at 250° to 300°F (121°C to 149°C). Based on the combined disclosures, one skilled in the art

Pre-Appeal Brief Request for Review

would not expect increased whiteness levels by increasing the formation temperatures to 140°C to about 180°C, as recited in the current claims.

Applicant also notes that while the Examiner has rejected all pending claims based on the disclosures of Ohkuma and Bulfer, he apparently has failed to address certain dependent claims, such as claims 9, 10, 18-20, that recite formation of dextrin having a whiteness level between about 60 to about 100 using temperature ranges well outside the range disclosed by Bulfer (i.e., 250°F to 300°F (121 to 149°C)).

Applicant submit that the Examiner has not established a *prima facie* case of obviousness for at least the reasons that there is no suggestion or motivation to modify or combine the teachings of the references and that the combined references fail to teach or suggest each and every element of the claims.

CONCLUSION

Applicant submits that all of the claims are in condition for allowance, which action is respectfully requested.

Respectfully submitted,


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